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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Trotta

Confirmation No.: 6447

Filed: May 18, 2006

Group Art Unit: 1639

Serial No.: 10/551,304

Examiner: To be Assigned

For: METHODS FOR IDENTIFYING
COMPOUNDS THAT TARGET tRNA
SPLICING ENDONUCLEASE AND USES
OF SAID COMPOUNDS AS ANTI-
FUNGAL AGENTS

Attorney Docket No: 10589-033-999

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. §§1.56 AND 1.97

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure imposed by 37 C.F.R. §1.56 and §1.97 to inform the Patent Office of all references coming to the attention of each individual associated with the filing or prosecution of the subject application, which are or may be material to the patentability of any claim of the application, Applicant hereby directs the Examiner's attention to references **A01-A18**, **B01-B17** and **C01-C74**, listed on the attached form entitled "List of References Cited by Applicant." Legible copies of references B01-B17 and C01-C74 are submitted herewith.

Copies of references A01-A18 are not submitted herewith because they are U.S. patents, patent publications and pending applications that have been stored in the IFW system of United States Patent and Trademark Office. Pursuant to 37 C.F.R. §1.98 (a)(2)(i) as amended (*see* Fed. Reg. vol. 69, no. 182, Sept. 21, 2004), the requirement for providing a copy of each U.S. patent or U.S. patent application publication listed in an Information Disclosure Statement in a patent application, regardless of the filing date of the application, is eliminated.

Identification of the listed references is not to be construed an admission of Applicant or Attorneys for Applicant that such references are available as "prior art" against the subject application. Applicant respectfully requests that the Examiner review the foregoing references and that the references be made of record in the file history of the application.

Pursuant to 37 C.F.R. §1.97 (b)(3), Applicant estimates that no fee is due in connection with the filing of this Information Disclosure Statement. However, should the Patent Office determine otherwise, please charge the necessary fee to Jones Day Deposit Account No. 50-3013.

Respectfully submitted,

Date: July 20, 2007

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LIST OF REFERENCES CITED BY APPLICANT

(Use several sheets if necessary)

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	A18	6,446,032	09/03/02	Schimmel	

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	B03	WO 02/83837	10/24/02	Almstead		
	B04	WO 02/83953	10/24/02	PTC Therapeutics, Inc.		
	B05	WO 91/09942	07/11/91	Board of Regents, The University of Texas System		
	B06	WO 98/49274	11/05/98	Appligene-Oncor		
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B09	WO 02/40685	05/23/02	Cornell Research Foundations, Inc.		
B10	WO 02/42326	05/30/02	Biota Scientific Management Pty LTD		
B11	WO 04/001010	12/31/03	PTC Therapeutics, Inc.		
B12	WO 04/087069	10/14/04	PTC Therapeutics, Inc.		
B13	WO 04/087070	10/14/04	PTC Therapeutics, Inc.		
B14	WO 04/087884	10/14/04	PTC Therapeutics, Inc.		
B15	DE 3436818	04/10/89	Hoechst AG		
B16	CN 1328156	12/26/01	Wuhan Inst Of Virology Chinese		
B17	WO 00/67580	11/16/06	SmithKline Beecham Corp.		

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C11	GENBANK: Accession No: NT_011225.9; "Homo sapiens chromosome 19 reference genomic contig."	
C12	GENBANK: Accession No: XP_085899; "similar to LENG5 protein [Homo sapiens]."	
C13	GOMES et al., 1997, "RNA splicing ligase activity in the archaeon Haloferax volcanii" Biochem & Biophys. Res. Comm. 237:588-94	
C14	GREER et al., 1982, "Mechanism of action of a yeast RNA ligase in tRNA splicing" Cell 32:537-546	

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	C15	GREER., 1986, "Assembly of tRNA Splicing Complex: Evidence for Concerted Excision and Joining Steps in Splicing <i>In Vitro</i> ." Mol. and Cellular. Bio., 6(2):638-642	
	C16	HYDE-DERUYSCHE et al., 2000, "Detection of Small-Molecule Enzyme Inhibitors with Peptides Isolated from Phage-Displayed Combinatorial Peptide Libraries." Chem. & Biol. 7:17-25	
	C17	IKEMURA, 1985, "Codon Usage and tRNA Content in Unicellular and Multicellular Organisms." Mol. Biol. Evol., 2(1):13-34	
	C18	IKEMURA, T. AND OKEKI, H., 1983, "Codon usage and transfer RNA contents: organism-specific codon-usage patterns in reference to the isoacceptor contents." Cold Spring Harbor Symp. Quant. Biol. 47:1087-1097	
	C19	KLEMAN-LEYER et al., 1997, "Properties of H. volcanii tRNA Intron Endonuclease Reveal a Relationship between the Archaeal and Eucaryal tRNA Intron Processing Systems." Cell., 89:839-847	
	C20	LI & ABELSON, 2000, "Crystal Structure of a Dimeric Archaeal Splicing Endonuclease." J. Mol. Biol. 302:639-648.	
	C21	LI et al., 1998, "Crystal structure and evolution of a transfer RNA splicing enzyme" Science 280(5361):279-284	
	C22	LYKKE-ANDERSEN, J. & GARRETT, R.A., 1997, "RNA-protein interactions of an archaeal homotetrameric splicing endonuclease with an exceptional evolutionary history." EMBO J 16(20):6290-6300.	
	C23	PHIZICKY et al., 1986, "Saccharomyces cerevisiae tRNA ligase. Purification of the protein and isolation of the structural gene" J. of Biol. Chem. 261(6):2978-2986	
	C24	QIN & PYLE, 1999, "Site-specific labeling of RNA with fluorophores and other structural probes." Methods 18 (1):60-70	
	C25	REYES & ABELSON 1988, "Substrate Recognition and Splice Site Determination in Yeast tRNA Splicing." Cell, 55:719-730	
	C26	SARKAR & HOPPER., 1998, "tRNA Nuclear Export in <i>Saccharomyces cerevisiae</i> : In Situ Hybridization Analysis." Mol. Biol. of the Cell., 9:3041-3055	
	C27	SAXENA et al., 1992, "Angiogenin is a Cytotoxic, tRNA-specific Ribonuclease in the RNase A Superfamily." J. of Biol. Chem. 267(30):21982-21986	
	C28	TROTTA et al., 1997, "The yeast tRNA splicing endonuclease: a tetrameric enzyme with two active site subunits homologous to the archaeal tRNA endonucleases." Cell 89:849-858.	
	C29	TROTTA, C.R. AND ABELSON, J.N., 1999, "tRNA Splicing: An RNA World Add-On or an Ancient Reaction? In RNA World II" Tom Cech, Ray Gesteland and John Atkins (eds.), Cold Spring Harbor Laboratory Press, 561-584	
	C30	TROTTA., 1999, "The Composition, Function and Evolution of the tRNA Splicing Endonuclease." Thesis, California Institute of Technology, pp.1-147	
	C31	TSIEN et al., 1993, "FRET for studying intracellular signaling." Trends in Cell. Bio. 3(7): 242-245	
	C32	VAUGHN et al., 2002, "Methionine In and Out of Proteins: Targets for Drug Design." Curr. Med. Chem. 9(3):385-409	
	C33	VOLAREVIC et al., 2000, "Proliferation, But not Growth Blocked by Conditional Deletion of 40S Ribosomal Protein S6." Science 288:2045-2047	
	C34	WANG et al., 1990, "Substrate Masking: Binding of RNA by EGTA-Inactivated Micrococcal Nuclease Results in Artifactual Inhibition of RNA Processing Reactions." Nuc. Acids Res. 18(22):6625-6626	
	C35	WINTER et al., 2000, "RNA polymerase III transcription factor TFIIC2 is overexpressed in ovarian tumors." Proc. Natl. Acad. Sci., 97(23):12619-12624	
	C36	XU et al., 1990, "Purification of yeast transfer RNA ligase." Meth. in Enzymol. 181:463-471	
	C37	Yeast Accession No: M32336; SEN2: "http://www.yeastgenome.org/"	

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	C38	Yeast Accession No: YAR008w; SEN34 "http://www.yeastgenome.org/"	
	C39	Yeast Accession No: YMR059w; SEN 15 "http://www.yeastgenome.org/"	
	C40	Yeast Accession No: YPL083c; SEN54 "http://www.yeastgenome.org/"	
	C41	ZHANG et al., 1997, "Gene Expression Profiles in Normal and Cancer Cells." Science 276:1268-1272	
	C42	BALDI et al., 1992, "Participation of the intron in the reaction catalyzed by the <i>Xenopus</i> tRNA splicing endonuclease." Science 255:1404-1408.	
	C43	BARBINO & KELLER, 1999, "Last but not least: regulated poly(A) tail formation." Cell 99(1):9-11	
	C44	BUJNICKI, J.M., & RYCHLEWSKI, L., 2000, "Prediction of a common fold for all four subunits of the yeast tRNA splicing endonuclease: implications for the evolution of the EndA/Sen family." FEBS Lett 486: 328-329.	
	C45	BUVOLI et al, 2000, "Suppression of nonsense mutations in cell culture and mice by multimerized suppressor tRNA genes" Molecular and Cellular Biology 20(9):3116-3124	
	C46	CALVO, O., AND MANLEY, J.L., 2003, "Strange bedfellows: polyadenylation factors at the promoter." Genes Dev 17(11):1321-1327.	
	C47	CHOI AND DREYFUSS, 1984, "Monoclonal antibody characterization of the C proteins of heterogeneous nuclear ribonucleoprotein complexes in vertebrate cells." J. Cell. Biol. 99(6):1997-2004	
	C48	CULVER et al., 1997, "A 2'-phosphotransferase implicated in tRNA splicing is essential in <i>Saccharomyces cerevisiae</i> ." J Biol Chem 272:13203-13210.	
	C49	DE VRIES, H. et al., 2000, "Human pre-mRNA cleavage factor II(m) contains homologs of yeast proteins and bridges two other cleavage factors." EMBO J 19:5895-5904.	
	C50	FABBR, S et al., 1998, "Conservation of substrate recognition mechanisms by tRNA splicing endonucleases." Science 280, 284-286.	
	C51	FRANK & PACE, 1998, "Ribonuclease P: unity and diversity in a tRNA processing ribozyme." Annu Rev Biochem 67, 153-180.	
	C52	GANDINI-ATTARDI, et al., 1990, "Transfer RNA splicing endonuclease from <i>Xenopus laevis</i> ." Methods Enzymol 181:510-517.	
	C53	HIROSE AND MANLEY, 2000, "RNA polymerase II and the integration of nuclear events." Genes Dev., 14(12):1415-1429	
	C54	HOPPER, A.K., AND PHIZICKY, E.M., 2003, "tRNA transfers to the limelight." Genes Dev 17(2):162-180.	
	C55	HUH, et al., 2003, "Global analysis of protein localization in budding yeast." Nature 425:686-691.	
	C56	JACOBSON et al., 1997, "Nuclear domains of the RNA subunit of RNase P." J Cell Sci. 110 (Pt 7):829-837.	
	C57	LASKI, F.A. et al., 1983, "Characterization of tRNA precursor splicing in mammalian extracts." J Biol. Chem. 258(19):11974-11980.	
	C58	MINVIELLE-SEBASTIA, L. & KELLER, W., 1999, "mRNA polyadenylation and its coupling to other RNA processing reactions and to transcription." Curr. Opin. Cell. Biol. 11:352-357	
	C59	O'CONNOR, J.P., & PEEBLES, C.L., 1992, "PTA1, an essential gene of <i>Saccharomyces cerevisiae</i> affecting pre-tRNA processing." Mol Cell Biol 12:3843-3856.	
	C60	OTSUKA, E. et al., 1981, "Ribonuclease 'XlaI' an activity from <i>Xenopus laevis</i> oocytes that excises intervening sequences from yeast transfer ribonucleic acid precursors." Mol Cell Biol 1:269-280.	
	C61	PARK & BHANDARY, 1998, "Tetracycline-regulated suppression of amber codons in mammalian cells." Mol. & Cell. Biol. 18:4418-4425	
	C62	PREKER et al., 1997, "A multisubunit 3'-end processing factor from yeast containing poly(A) polymerase and	

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		homologues of the subunits of mammalian cleavage and polyadenylation specificity factor." EMBO J 16:4727-4737.	
	C63	PROUDFOOT, 2000, "Connecting transcription to messenger RNA processing." Trends Biochem Sci. 2000 Jun;25(6):290-3. Review.	
	C64	RAUHUT et al., 1990, "Yeast tRNA-splicing endonuclease is a heterotrimeric enzyme." J Biol. Chem. 265(30): 18180-18184.	
	C65	REYES et al., 1987, "A synthetic substrate for tRNA splicing." Anal. Biochem. 166(1):90-106	
	C66	STANDRING et al., 1981, "Yeast tRNA ³ Leu gene transcribed and spliced in a HeLa cell extract." Proc. Natl. Acad. Sci. USA 78(10):5963-5967.	
	C67	TAKAGAKI et al., 2000, "Complex protein interactions within the human polyadenylation machinery identify a novel component." Mol. Cell. Biol. 20:1515-1525.	
	C68	TAKAKU et al., 2003, "A candidate prostate cancer susceptibility gene encodes tRNA 3' processing endoribonuclease." Nucleic Acids Res 31(9):2272-2278.	
	C69	WAHLE & RUEGSEGG, 1999, "3'-End processing of pre-mRNA in eukaryotes." FEMS Micro Rev., 23(3):277-295	
	C70	WALLACE et al., 1999, "Two distinct forms of the 64,000 Mr protein of the cleavage stimulation factor are expressed in mouse male germ cells." Proc. Natl. Acad. Sci. 96(12):6763-6768	
	C71	XIAO et al., 2002, "Eukaryotic ribonuclease P: a plurality of ribonucleoprotein enzymes." Annu Rev Biochem 71, 165-189.	
	C72	YOSHIHISA et al., 2003, "Possibility of cytoplasmic pre-tRNA splicing: the yeast tRNA splicing endonuclease mainly localizes on the mitochondria." Mol Biol Cell 14(8):3266-3279.	
	C73	ZHAO, 1999 "Formation of mRNA 3' ends in eukaryotes: mechanism, regulation, and interrelationships with other steps in mRNA synthesis." Microbiol. Mol. Biol. Rev. 63:405-445	
	C74	MIAO et al., 1993, "Yeast tRNA-splicing endonuclease cleaves precursor tRNA in a random pathway." J. Biol. Chem. 268(1):672-7	

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C11	GENBANK: Accession No: NT_011225.9; "Homo sapiens chromosome 19 reference genomic contig."	
C12	GENBANK: Accession No: XP_085899; "similar to LENG5 protein [Homo sapiens]."	
C13	GOMES et al., 1997, "RNA splicing ligase activity in the archaeon Haloferax volcanii" Biochem & Biophys. Res. Comm. 237:588-94	
C14	GREER et al., 1982, "Mechanism of action of a yeast RNA ligase in tRNA splicing" Cell 32:537-546	

NYI-3914639v3

EXAMINER

DATE CONSIDERED

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NON PATENT LITERATURE DOCUMENTS

Examiner Initials		(Include name of the author (in CAPITAL LETTERS), Title, Date, Pertinent Pages, Etc.)	T
	C15	GREER, 1986, "Assembly of tRNA Splicing Complex: Evidence for Concerted Excision and Joining Steps in Splicing <i>In Vitro</i> ." Mol. and Cellular. Bio., 6(2):638-642	
	C16	HYDE-DERUYSCHEER et al., 2000, "Detection of Small-Molecule Enzyme Inhibitors with Peptides Isolated from Phage-Displayed Combinatorial Peptide Libraries." Chem. & Biol. 7:17-25	
	C17	IKEMURA, 1985, "Codon Usage and tRNA Content in Unicellular and Multicellular Organisms." Mol. Biol. Evol., 2(1):13-34	
	C18	IKEMURA, T. AND OKEKI, H., 1983, "Codon usage and transfer RNA contents: organism-specific codon-choice patterns in reference to the isoacceptor contents." Cold Spring Harbor Symp. Quant. Biol. 47:1087-1097	
	C19	KLEMAN-LEYER et al., 1997, "Properties of H. volcanii tRNA Intron Endonuclease Reveal a Relationship between the Archaeal and Eucaryal tRNA Intron Processing Systems." Cell., 89:839-847	
	C20	LI & ABELSON, 2000, "Crystal Structure of a Dimeric Archaeal Splicing Endonuclease." J. Mol. Biol. 302:639-648.	
	C21	LI et al., 1998, "Crystal structure and evolution of a transfer RNA splicing enzyme" Science 280(5361):279-284	
	C22	LYKKE-ANDERSEN, J. & GARRETT, R.A., 1997, "RNA-protein interactions of an archaeal homotetrameric splicing endoribonuclease with an exceptional evolutionary history." EMBO J 16(20):6290-6300.	
	C23	PHIZICKY et al., 1986, "Saccharomyces cerevisiae tRNA ligase. Purification of the protein and isolation of the structural gene" J. of Biol. Chem. 261(6):2978-2986	
	C24	QIN & PYLE, 1999, "Site-specific labeling of RNA with fluorophores and other structural probes." Methods 18 (1):60-70	
	C25	REYES & ABELSON 1988, "Substrate Recognition and Splice Site Determination in Yeast tRNA Splicing." Cell, 55:719-730	
	C26	SARKAR & HOPPER, 1998, "tRNA Nuclear Export in <i>Saccharomyces cerevisiae</i> : In Situ Hybridization Analysis." Mol. Biol. of the Cell., 9:3041-3055	
	C27	SAXENA et al., 1992, "Angiogenin is a Cytotoxic, tRNA-specific Ribonuclease in the RNase A Superfamily." J. of Biol. Chem. 267(30):21982-21986	
	C28	TROTTA et al., 1997, "The yeast tRNA splicing endonuclease: a tetrameric enzyme with two active site subunits homologous to the archaeal tRNA endonucleases." Cell 89:849-858.	
	C29	TROTTA, C.R. AND ABELSON, J.N., 1999, "tRNA Splicing: An RNA World Add-On or an Ancient Reaction? In RNA World II" Tom Cech, Ray Gesteland and John Atkins (eds.), Cold Spring Harbor Laboratory Press, 561-584	
	C30	TROTTA, 1999, "The Composition, Function and Evolution of the tRNA Splicing Endonuclease." Thesis, California Institute of Technology, pp.1-147	
	C31	TSIEN et al., 1993, "FRET for studying intracellular signaling." Trends in Cell. Bio. 3(7): 242-245	
	C32	VAUGHN et al., 2002, "Methionine In and Out of Proteins: Targets for Drug Design." Curr. Med. Chem. 9(3):385-409	
	C33	VOLAREVIC et al., 2000, "Proliferation, But not Growth Blocked by Conditional Deletion of 40S Ribosomal Protein S6." Science 288:2045-2047	
	C34	WANG et al., 1990, "Substrate Masking: Binding of RNA by EGTA-Inactivated Micrococcal Nuclease Results in Artificial Inhibition of RNA Processing Reactions." Nuc. Acids Res. 18(22):6625-6626	
	C35	WINTER et al., 2000, "RNA polymerase III transcription factor TFIIC2 is overexpressed in ovarian tumors." Proc. Natl. Acad. Sci., 97(23):12619-12624	
	C36	XU et al., 1990, "Purification of yeast transfer RNA ligase." Meth. in Enzymol. 181:463-471	
	C37	Yeast Accession No: M32336; SEN2: "http://www.yeastgenome.org/"	

NYI-39146393

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Examiner Initials		(Include name of the author (in CAPITAL LETTERS), Title, Date, Pertinent Pages, Etc.)	T
	C38	Yeast Accession No: YAR008w; SEN34 "http://www.yeastgenome.org"	
	C39	Yeast Accession No: YMR059w; SEN 15 "http://www.yeastgenome.org"	
	C40	Yeast Accession No: YPL083c; SEN54 "http://www.yeastgenome.org"	
	C41	ZHANG et al., 1997, "Gene Expression Profiles in Normal and Cancer Cells." Science 276:1268-1272	
	C42	BALDI et al., 1992, "Participation of the intron in the reaction catalyzed by the <i>Xenopus</i> tRNA splicing endonuclease." Science 255:1404-1408.	
	C43	BARBINO & KELLER, 1999, "Last but not least: regulated poly(A) tail formation." Cell 99(1):9-11	
	C44	BUJNICKI, J.M., & RYCHLEWSKI, L., 2000, "Prediction of a common fold for all four subunits of the yeast tRNA splicing endonuclease: implications for the evolution of the EndA/Sen family." FEBS Lett 486: 328-329.	
	C45	BUVOLI et al. 2000, "Suppression of nonsense mutations in cell culture and mice by multimerized suppressor tRNA genes" Molecular and Cellular Biology 20(9):3116-3124	
	C46	CALVO, O., AND MANLEY, J.L., 2003, "Strange bedfellows: polyadenylation factors at the promoter." Genes Dev 17(11):1321-1327.	
	C47	CHOI AND DREYFUSS, 1984, "Monoclonal antibody characterization of the C proteins of heterogeneous nuclear ribonucleoprotein complexes in vertebrate cells." J. Cell. Biol. 99(6):1997-2004	
	C48	CULVER et al., 1997, "A 2'-phosphotransferase implicated in tRNA splicing is essential in <i>Saccharomyces cerevisiae</i> ." J Biol Chem 272:13203-13210.	
	C49	DE VRIES, H. et al., 2000, "Human pre-mRNA cleavage factor II(m) contains homologs of yeast proteins and bridges two other cleavage factors." EMBO J 19:5895-5904.	
	C50	FABBRI, S et al., 1998, "Conservation of substrate recognition mechanisms by tRNA splicing endonucleases." Science 280, 284-286.	
	C51	FRANK & PACE, 1998, "Ribonuclease P: unity and diversity in a tRNA processing ribozyme." Annu Rev Biochem 67, 153-180.	
	C52	GANDINI-ATTARDI, et al., 1990, "Transfer RNA splicing endonuclease from <i>Xenopus laevis</i> ." Methods Enzymol 181:510-517.	
	C53	HIROSE AND MANLEY, 2000, "RNA polymerase II and the integration of nuclear events." Genes Dev., 14(12):1415-1429	
	C54	HOPPER, A.K., AND PHIZICKY, E.M., 2003, "tRNA transfers to the limelight." Genes Dev 17(2):162-180.	
	C55	HUH, et al., 2003, "Global analysis of protein localization in budding yeast." Nature 425:686-691.	
	C56	JACOBSON et al., 1997, "Nuclear domains of the RNA subunit of RNase P." J Cell Sci. 110 (Pt 7):829-837.	
	C57	LASKI, F.A. et al., 1983, "Characterization of tRNA precursor splicing in mammalian extracts." J Biol. Chem. 258(19):11974-11980.	
	C58	MINVIELLE-SEBASTIA, L. & KELLER, W., 1999, "mRNA polyadenylation and its coupling to other RNA processing reactions and to transcription." Curr. Opin. Cell. Biol. 11:352-357	
	C59	O'CONNOR, J.P., & PEEBLES, C.L., 1992, "PTA1, an essential gene of <i>Saccharomyces cerevisiae</i> affecting pre-tRNA processing." Mol Cell Biol 12:3843-3856.	
	C60	OTSUKA, et al., 1981, "Ribonuclease 'XlaI' an activity from <i>Xenopus laevis</i> oocytes that excises intervening sequences from yeast transfer ribonucleic acid precursors." Mol Cell Biol 1:269-280.	
	C61	PARK & BHANDARY, 1998, "Tetracycline-regulated suppression of amber codons in mammalian cells." Mol. & Cell. Biol. 18:4418-4425	
	C62	PREKER et al., 1997, "A multisubunit 3'-end processing factor from yeast containing poly(A) polymerase and	

NYI-3914639v3

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		homologues of the subunits of mammalian cleavage and polyadenylation specificity factor." EMBO J 16:4727-4737.	
	C63	PROUDFOOT, 2000, "Connecting transcription to messenger RNA processing." Trends Biochem Sci. 2000 Jun;25(6):290-3. Review.	
	C64	RAUHUT et al., 1990, "Yeast tRNA-splicing endonuclease is a heterotrimeric enzyme." J Biol. Chem. 265(30): 18180-18184.	
	C65	REYES et al., 1987, "A synthetic substrate for tRNA splicing." Anal. Biochem. 166(1):90-106	
	C66	STANDRING et al., 1981, "Yeast tRNA ³ Leu gene transcribed and spliced in a HeLa cell extract." Proc. Natl. Acad. Sci. USA 78(10):5963-5967.	
	C67	TAKAGAKI et al., 2000, "Complex protein interactions within the human polyadenylation machinery identify a novel component." Mol. Cell. Biol. 20:1515-1525.	
	C68	TAKAKU et al., 2003, "A candidate prostate cancer susceptibility gene encodes tRNA 3' processing endoribonuclease." Nucleic Acids Res 31(9):2272-2278.	
	C69	WAHLE & RUEGSEGG, 1999, "3'-End processing of pre-mRNA in eukaryotes." FEMS Micro Rev., 23(3):277-295	
	C70	WALLACE et al., 1999, "Two distinct forms of the 64,000 Mr protein of the cleavage stimulation factor are expressed in mouse male germ cells." Proc. Natl. Acad. Sci. 96(12):6763-6768	
	C71	XIAO et al., 2002, "Eukaryotic ribonuclease P: a plurality of ribonucleoprotein enzymes." Annu Rev Biochem 71, 165-189.	
	C72	YOSHIHISA et al., 2003, "Possibility of cytoplasmic pre-tRNA splicing: the yeast tRNA splicing endonuclease mainly localizes on the mitochondria." Mol Biol Cell 14(8):3266-3279.	
	C73	ZHAO, 1999 "Formation of mRNA 3' ends in eukaryotes: mechanism, regulation, and interrelationships with other steps in mRNA synthesis." Microbiol. Mol. Biol. Rev. 63:405-445	
	C74	MIAO et al., 1993, "Yeast tRNA-splicing endonuclease cleaves precursor tRNA in a random pathway." J. Biol. Chem. 268(1):672-7	

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